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ABSTRACT

This discussion of what constitutes the optimum school organization for early adolescents includes a review of the following questions: (1) what critics say about schools for early adolescents?; (2) what does research indicate about the physical, social, and emotional growth of early adolescents?; (3) what is the most appropriate size of a school for early adolescents?; what grades should be housed in a school for early adolescents?; and (5) what type of curriculum should be offered to early adolescents? The review reveals that the two school settings are more similar than different in terms of practice, that implementation of the middle school concept exists more in ideal than in reality in either type of grade organization, and that research in physiological and sociological areas cannot be used to support either grade organization upon rational, empirical grounds without quoting conflicting evidence. (Author)

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The Optimum Setting for the Early Adolescent: Junior High or Middle School

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THE OPTIMUM SETTING FOR THE EARLY ADOLESCENT: JUNIOR HIGH OR MIDDLE SCHOOL?

Since the first junior high school was established over fifty years ago, it has generally been accepted as the unique institution for early adolescents. Today many educators critical of the typical junior high school claim it has failed to achieve adequately its purposes and functions, particularly those appropriate to the unique characteristics of the students in these grades.

Critics of the typical junior high school frequently cite two reasons for its failure to achieve its original purposes and objectives. First, the emulation of the senior high school has prevented the development of an educational program specifically designed for early adolescents. Second, the inclusion of ninth grade youngsters, in spite of research in physical, social, and emotional growth which had demonstrated that normal ninth graders are too mature for this grade range, has resulted in many schools focusing on the needs of ninth grade students at the expense of the needs of students in other grades. Within the last fifteen years this criticism of the junior high school, which contains grades seven, eight and nine, has substantially increased and has been an important factor behind the growing support for the middle school, housing grades five and/or six, seven, and eight. The dispute between junior high and middle school supporters does not stem from a basic philosophic disagreement over the basic functions and purposes of the traditional junior high school but merely its grade range. As Kindred points out:

> The purpose and functions of both grade organizations are basically the same ...
>
> Both grade organizations are philosophically oriented toward educating a child during his preadolescent and adolescent years.[1]

The important issue is not whether the traditional junior high school is better or worse than it was in the past; rather, it is being questioned as to whether or not it is good enough to continue as the major educational institution for early adolescents.

A discussion of what constitutes the optimum school organization for early adolescents should include a review of the following questions.

1. What critics say about schools for early adolescents?
2. What does research indicate about the physical, social, and emotional growth of early adolescents?
3. What is the most appropriate size of a school for early adolescents?
4. What grades should be housed in a school for early adolescents?
5. What type of curriculum should be offered to early adolescents?

Criticism of Schools for Early Adolescents

Any study of either the junior high school or middle school usually begins with a discussion of the objections to the classic junior high school. The following criticisms are frequently cited by opponents of the traditional junior high school. The critics believe:

1. that the junior high school is too much like the high school despite the excellent theory behind it. Indeed from the Conant report to the present, the sharpest criticism leveled against the junior high school has been that it is too imitative of big brother. Its social activities, dances, and competitive athletics prompt observers to wonder what there is left for the students to "grow into."

2. that the ninth grade curriculum is tied to the high school because the vast majority of colleges still insist on a four-year college preparatory program. Critics claim this has prevented the development of a coherent and unique three-year sequence of course offerings for junior high students.

3. that most states do not require special teacher certification to teach in the junior high school. Opponents maintain this situation results in many teachers accepting junior high positions while awaiting openings in the high school. These teachers show their dissatisfaction about their assignment in their relations with students and fail to exercise the patience and tact required to work successfully with early adolescents.

4. that from their inception in 1910 to the present, junior high schools have been hindered by an inadequate source of teachers specifically prepared for teaching early adolescents because colleges of education tend to make believe that there is no such institution.

5. that the name - junior high school - is an obstacle to its full development. As long as junior is included in the name, these schools will have a difficult time achieving the prestige and status owed them.

6. that junior high school personnel pay insufficient attention to the transition of seventh graders from a self-contained elementary classroom to the departmentalized junior high schools. In fact many junior high educators state that it is the responsibility of elementary teachers to prepare seventh graders for junior high.

7. that the recent stress on academic achievement has caused junior high schools to de-emphasize the exploration role of schools for early adolescents. Critics state that the core curriculum attempted to ease transition into junior high schools and meet the exploratory needs of students but never reached more than forty percent of the schools and never achieved its full potential because of a lack of trained teachers.

8. that increasing maturity and greater social sophistication particularly among ninth graders means these students should be placed in a four-year high school.[2]

Although a combination of factors - social change, physical maturation rate change, and a focus on high school type activities - have led to a disenchantment with the junior high school, many educators believe that the crucial factor is the focus of the educational program. When the curriculum is appropriate to the needs of the students, these criticisms are eliminated. This suggests also that a new grade organization will not correct the problems created by the failure to develop a school curriculum specifically designed for early adolescents. Junior high supporters correctly maintain that emergent middle schools in communities where they are based on expediency rather than on an educationally sound philosophy will face the same problems which hindered the effectiveness of junior high schools in similar circumstances.

There is a limited body of criticism of the middle schools in theory and practice. An important reason for the paucity of objections to middle schools stems from its relatively recent arrival on the American educational landscape. The very newness of middle schools means that there are no well-defined concepts and programs outlined for them and that the middle school is merely a hybrid housing grades five and/or six from the elementary

school and grades seven and eight from the junior high school. Critics maintain that the middle school lacks both a well-defined philosophy and program for the youngsters it proposes to educate. Secondly, other opponents of middle schools state that since few pupils in grade five are pubescent, this grade should remain in the elementary school. The same point is raised about grade six by people who maintain that both grades should be retained in elementary school and not be exposed to older students who may help to accelerate their rate of social maturation. Thirdly, it is argued that increased costs to educate grades five and six in the middle school cannot be justified when an equally effective educational program is available in the elementary school at much less expense. Fourthly, the selfsame criticisms which were raised against the traditional junior high school are alleged to apply to the emergent middle school such as: untrained personnel, insufficient instructional materials for this age group, high school type activities, interscholastic athletics, and obsolete school buildings which restrict proposed innovative educational programs for early adolescents.

Middle schools are also frequently begun for social, economical, or political reasons rather than the educational benefits which will result from this grade organization.[3] Critics point out that many junior high schools began for identical reasons and, as a result, never achieved their full potential in those communities where junior high schools were an expedient method of solving a local problem instead of evolving from a well-defined educational philosophy. Criticism of both junior high schools and middle schools focuses upon weaknesses in the two school organizations for early adolescents which are an outgrowth of schools founded to combat ills of American society without having first generated a sound philosophical foundation.

Research into the Physical, Social, and Emotional Growth of Early Adolescents

A dilemma is confronting educators responsible for planning the education of early adolescents. Communities attempting to improve the educational program for youngsters aged ten to fourteen discover that, while professional educators agree about the purposes and functions of education for this group, they are divided into two major camps in terms of which grade organization - junior high or middle school - will better achieve these purposes and functions. Local school boards need evidence of how different grade organizations may affect the children who receive their education in junior high or middle schools. A knowledge of the research on physical, emotional, and social development and growth is basic to determining what grades are most appropriate in schools for early adolescents.

The current controversy about the appropriate grade organization of schools for early adolescents stems largely from the hypothesized earlier maturational development of youngsters aged ten to fourteen. Because the ultimate purpose of any school is to provide the best teaching-learning environment, it is imperative that a school grade be placed in the organizational structure where the needs of the largest proportion of students assigned to it are best served.

The following summary of research findings from self-concept studies is based upon the assumption that a knowledge about an individual's self-concept is necessary before it is possible to understand completely either his social behavior or attitudes. An individual's perceptions of self have been shown to determine, to a considerable extent, what he does and what he believes. His behavior is determined by the concept he has of himself and his abilities. An examination of self-concept literature reveals several common elements which have important implications for educational programs of early adolescents. First, "underutilization of intellectual abilities and having negative attitudes toward school"

are directly related to a preceived low self-concept by an individual. Second, students with a negative self-concept tend to be less popular with their classmates. Third, an early adolescent who has hostile feelings toward himself tends to hold similar attitudes toward others. Fourth, the reaction of "significant others" (teachers, parents, and peers) toward the behavior of an early adolescent may affect his self-concept either positively or negatively. Finally, students with a low self-concept are more easily influenced by others than individuals with a positive self-concept.[4] This review of the research and literature of self-concept reveals that an individual's self-concept is directly related to his attitudes and behaviors. It is inappropriate to plan an educational program for early adolescents without considering the impact of self-concept upon the early adolescent's emotional growth and his adjustment to the school environment.

In general, research findings support the view that today's early adolescents are physically, emotionally, and socially more sophisticated than previous generations at the same age. A review of this literature supports the following:

1. Today's early adolescents are physically larger and maturing at an earlier age than youngsters during the early years of this century when the junior high school movement began.

2. Both boys and girls who are early physical maturers tend to experience less difficulty in adjusting to their environment than their late maturing peers.

3. The earlier physical maturation of today's youngsters is accompanied by a greater interest in heterosexual activities than previous generations.

4. The peer group is a major force in determining the attitudes and behavior of early adolescents.

5. Ninth grade students tend to be physically and socially more like senior high school students than their junior high classmates in grades seven and eight.

6. Sixth grade students tend to be more easily influenced by older adolescents than other age/grade groups.

7. The least amount of difference between students in the six to ten grade range as measured by social maturity, emotional maturity, physical maturity, and opposite sex choices exists between students in grades six and seven and between students in grades nine and ten.

Basically the issue between middle school advocates and junior high school supporters focuses on the physical and social maturation of ninth grade students and of fifth and/or sixth grade students. Neither middle school nor junior high school educators deny the validity of the research in the area of physical and social growth; they simply reach different conclusions about which grades should be housed together to educate early adolescents. Middle school advocates use the previously cited research as the basis for developing five and/or six-eight middle schools. Junior high school supporters continue to support the seven-nine grade organization based largely on the premise that the school should not accentuate this trend toward earlier sophistication among fifth and/or sixth grade students by educating them with the more mature youngsters typically found in junior high schools. They also maintain that the problems of ninth grade students can best be dealt with in the traditional junior high school which is sensitive to the concerns of early adolescents. In the final analysis a school district cannot determine the most appropriate grade organization of schools for early adolescents until it makes a decision on whether its schools will try to counteract the early sophistication of adolescents or adjust its grade structure to it.

School Size

The concept of an optimum school size is particularly important in school districts which must build new school facilities for early adolescents. In such districts both middle schools and junior high schools are often too large because the school board had a clear understanding that efficient and effective schools must enroll a minimum number of students but did not consider the fact that schools which are too large may have adverse effects on student attitudes and social behavior.

An excellent summary of the effects of organization size upon the individual is provided in the book Big School, Small School. It reports that empirical research into organization size indicates:

1. Persons in small groups and other social organizations, and ecological units:
    a. are absent less often;
    b. quit jobs and positions less often;
    c. are more punctual;
    d. participate more frequently when participation is voluntary;
    e. function in positions of responsibility and importance more frequently, and in a wider range of activities;
    f. are more productive;
    g. demonstrate more leadership behavior;
    h. are more important to the groups and settings;
    i. have broader role conceptions;

j. are more frequently involved in roles directly relevant to the group tasks;

k. are more interested in the affairs of the group or organization.

2. Small groups and other ecological and social units give rise to:

a. greater individual participation in communication and social interaction, and less centralization of the communication around one or few persons;

b. more greetings and social transactions per person;

c. facilitated communication both through greater clarity and decreased difficulty;

d. greater group cohesiveness and more frequent liking of all fellow group members;

e. greater ability to identify outstanding persons and higher agreement about such persons.

3. Persons in smaller groups and other social and ecological units:

a. receive more "satisfaction";

b. speak more often of participation having been valuable and useful;

c. are more familiar with the settings;

d. report being more satisfied with payment schemes and with the results of group discussions;

e. find their work more meaningful.[5]

Research in the area of school size indicates that a definite relationship exists between student attitudes and school size. Studies have determined that student participation in extracurricular activities was the factor most related to whether or not a student finished high school and by far the most striking difference between those who graduate and those who dropout. Small school (0-599 students) students enter a wider range of extracurricular activities and have more responsible positions in these settings than do students of large schools (1,500 or more students). Willems in a study of students from large and small schools who were classified as either marginal or regular students drew the following conclusions:

1. Overall, small school students reported more sense of obligation than large school students.

2. Marginal students in the small schools reported as much sense of obligation as their regular classmates, while the marginal students in the large school were a group apart.

3. The principal impact of school size appears to be upon marginal students.[6]

A study conducted by this writer of middle school and junior high school students in terms of their self-concept, social behavior, and attitudes toward school provides additional data that school size affects student attitudes and behavior. Instrumentation consisted of a questionnaire completed by 2,471 students in sixteen middle schools and fifteen junior high schools throughout Michigan. The Student Questionnaire was divided into three parts. Part I, the Self-Esteem Inventory, was analyzed in terms of three subscales: self-measure, social-measure, and school-measure. Part II, the Social Behavior Scale, was analyzed in terms of five factors: dating, belonging, independence, vocational, and conformity. Part III, the Student Opinion Poll II, was analyzed in terms of five subscales: all items, curriculum, teacher, peer, and school. Study results indicate that school size affects student attitudes and social behavior on seven out of thirteen subscales factored out of the Student Questionnaire. In both middle and junior high schools, social behavior and attitudes appear to be relatively unaffected by school size but a positive relationship exists between attitudes toward school and the school's size.

Students in middle schools of less than 700 students evidence more positive attitudes toward school than students in middle schools with more than 700 students. In the junior high school with 1100 to 1300 students, students have less positive attitudes toward school than students in junior high schools of other sizes. From this evidence, a conclusion can be made that larger middle and junior high schools produce more negative attitudes toward school in students than smaller schools (less than 700 students) unless special provisions are made which enable students to identify with smaller groups within the school. The junior high

schools with 1300 to 1400 students in this study had developed subgroups within the school and, as a result, neutralized the negative effects of size which cause students to express negative attitudes toward school. To summarize this study revealed that:

1. School size affects student attitudes and social behavior on seven out of thirteen subscales in the Student Questionnaire. The effect is negative in that students in larger schools have lower mean scores on these subscales than in smaller schools.

2. Middle and junior high student's social behavior appears to be unrelated to school size.

3. Middle and junior high students tend to exhibit more negative attitudes toward school in schools with more than 700 students compared to students in schools with less than 700 students.

From a review of studies of organizational size for both non-educational establishments and for schools, similar conclusions can be drawn in regard to the relationship of size to member participation and attitudes. As an organization increases in size there tends to be a corresponding decrease in the percentage of individuals who participate in either group activities or the decision-making process. A sense of satisfaction or a positive attitude toward the organization usually is experienced by fewer members as the organization increases in size. There is a negative relationship between the alienation of "marginal" members and the size of an organization. For example, "marginal" students are more likely to drop out of a large school than a small one. Finally, based upon the writer's research, review of literature, and experience as a middle school principal, a school for early adolescents should enroll approximately 700 students.

Grade Range of Schools for Early Adolescents

Neither junior high nor middle school advocates provide satisfactory answers for school boards about grade organizations. Both parties usually state that the educational program is the important factor in determining a successful school for early adolescents, rather than organization. No one will dispute this position about the importance of program. However, school boards generally intend to provide the best educational opportunities for their children and the question of which grades should be in a particular school is often an important issue when a community is planning a new school or reorganizing the current grade organization.

Although this writer accepts the premise that the educational program must be the focal point of any planning of schools for early adolescents, it should also be recognized that a school is fundamentally a social institution serving the educational needs of children. This means that any educational planning which does not include an examination of the social implications of different grade organizations will be flawed. A school housing grades seven, eight, and nine forms a different social entity than does one composed of fifth and/or sixth, seventh, and eighth grade students. The program may be basically the same in both types of schools but the social and emotional environment of students and staff will differ. These different social and emotional experiences mandate that a school district consider the implications of the different grade structures and then develop a rationale as to why it has selected a particular grade organization.

Research can be cited to support either a middle school or junior high school grade organization. For example, in 1963, Dacus found that the smallest differences existed between students in grades six and seven and between students in grades nine and ten. The least amount of difference in terms of social, emotional,

and physical maturity, and opposite sex choices between students occurred in grades which are divided by the six-three-three organizational plan.[7] In 1967, Shovlin conducted a study of the achievement, self-concept, and social behavior of sixth grade students in neighborhood elementary schools and a 6-8 middle school. He concluded that the middle school environment appears to accelerate social behavior and causes sixth graders to make decisions "for which they are ill-prepared."[8] According to the results of research conducted by Johnson, a school for early adolescents should be formed of all seventh and eighth grade students, plus sixth grade girls and ninth grade boys because in the judgment of teachers this group was the most homogeneous.[9]

In 1970, the author (in the research cited earlier in this article) concluded that the 5-8 middle school is the most appropriate grade organization for early adolescents as compared to 6-8 middle and 7-9 junior high schools when examined on the basis of the students' self-concept, social behavior, and attitudes toward school. The data also appeared to indicate that both types of middle school organizations are more appropriate for educating early adolescents than junior high schools. However, an analysis of the differences revealed that a large proportion of these differences was due to 5-8 middle school students and not a combination of 5-8 and 6-8 middle school students. In many cases, 6-8 middle school students' responses had a greater similarity with junior high school students' answers than students in 5-8 middle schools. It is suggested that the similarities between 6-8 middle and 7-9 junior high school students' responses result from the fact that while the grade structure of these schools is different, a corresponding change in educational methodology and philosophy has not occurred. One possible cause is the fact that several 6-8 middle schools in this study were established for administrative reasons (e.g., building needs) without a preconceived idea of how this type of school should be different.

At the same time the development of the 5-8 middle schools was preceded by a careful examination of the social and educational implications of educating fifth grade students with older youngsters. One can conclude that the full potential of any grade organization of schools for early adolescents is most likely to be derived only after careful study of the social, emotional, and educational environment of each structure.

Research has yet to establish a conclusive relationship between grade organization and the achievement, attitudes, or behavior of students. This situation exists, not due to a lack of adequate research, but because the student body of middle and/or junior high schools is composed of so bewildering an assortment of youngsters at crucial turning points in their lives as to defy orderly description. A school population of early adolescents is heterogeneous in terms of ability and all the usual variables plus youngsters may make sharp changes in the course of intellectual growth, emotional adjustment, and social goals during these years. Middle and/or junior high school students will be in three stages of development. First, later childhood in which children are still fundamentally dependent upon adults and "normally" quite delightful. Second, pre-adolescence in which they exhibit a variety of behavior changes without any apparent reason for the shifts. These attitudes are being utterly dependent upon their peers, being loners for a puzzling minority, being uncertain in terms of how they should view adults, and being quite conscious of sex. Third, some students are adolescents in which boy-girl interests are open and they are striving to reach adulthood while continuing to exhibit the characteristics of pre-adolescence. To further illustrate the complexity of the population of a school for early adolescents, forty students in a "typical" sixth grade would consist of: two fully adolescent girls, eight pre-adolescent girls, ten childish girls, four pre-adolescent boys, and sixteen childish boys. The first and foremost fact about schools for early

adolescents is that its population is unstable and a constantly changing mixture. There is no uniformity in needs, motivational patterns, favorite modes of relating to adults, or even social predisposition.

For the above mentioned reasons an educator who has completed a study of research into the grade structure of schools for early adolescents, can select and rationally defend almost any grade organization for a middle or junior high school. In the final analysis, the issue is not what grades are housed in a particular school but whether or not the instructional program focuses upon the diverse individual needs and interests of early adolescents.

Curriculum for Early Adolescents

A curriculum for early adolescents should be designed specifically for youngsters who are going through a period of many physical, emotional, social, and intellectual changes. These changes demand an instructional program which emphasizes exploratory activities. Every student must have a school program which provides maximum opportunities for the student to develop an understanding of himself and his role in society.

The key factor in a successful school for early adolescents are the teachers. They must be warm and friendly, concerned about each student as a person. The teachers must also be highly competent in subject-matter areas and well-versed in the theory of personality development and growth patterns of this age group. In this situation a student is not criticized for what he is but only for what he does or does not do. The teachers become managers of learning as opposed to dispensers of knowledge.

The students in a school for early adolescents must have the opportunity to experience a program which meets their individual needs. This means that educators recognize that each

person learns at a different rate and in a different manner. There is not a correct teaching methodology in a middle or junior high school. Because students learn differently, we should expect teachers to teach differently. In practice it means that an individualized program for students offers an opportunity for them to learn in one-to-one situations, in small groups, in traditional classrooms, in large groups, and by themselves. It does not restrict either teachers or students to one style of learning but individualizes it and, as a result, provides many ways of achieving our goal-helping students to develop from dependent children to self-actuating adolescents.

An effective curriculum in schools for early adolescents is balanced. It offers students freedom within structure. The students have opportunities to select their own courses and activities but within an established framework. This age group needs the security of knowing the limitations of their freedom. Unlimited freedom with little or no direction does not produce mature adolescents but frustration in most cases. Finally, the curriculum for early adolescents should begin where the students are in terms of their maturation levels. Adult behavior should not be forced down upon these age groups.

A school program for early adolescents provides that every course covers a wide range of activities, and thereby avoids too early pursuit of specialization. An introduction to a variety of educational experiences is equally important for all children-those who are college-bound and those who are not. Those students who plan to end formal education during or at the end of high school should explore activities to ascertain potential interests and talents that may lead to vocational plans and decisions. A balanced curriculum for early adolescents assumes that certain attitudes, skills, and knowledge are essential and desirable for all youth, whatever their future educational and vocational goals may be.

The instructional program in a middle or junior high school can be divided into three areas: common learnings, exploratory courses, and co-curricular activities. Common learnings-language arts, mathematics, physical education, science, and social studies-are the core of the curriculum. Instruction in these areas should stress not only the mastery of basic skills but also an attitude toward learning which makes life-long learners out of students.

Exploratory courses-art, foreign language, home economics, industrial arts, music, and typing-are essential parts of the curriculum because they help many students to use leisure time wisely. Although exposure to these subjects may contribute to the making of future vocational choices for some students, exploratory courses for most early adolescents should aid in developing a more rounded personality. These courses should be offered on a co-educational basis to students throughout the middle/junior high years, so that, they will explore these areas at different maturation levels.

Co-curricular activities should comprise an important part of a student's school experience. Since co-curricular activities are essential to a balanced curriculum, they should be a scheduled part of the school day and not become an adjunct to the curriculum by taking place after school hours. Properly implemented, co-curricular activities help students learn skills and develop attitudes in situations that are real and meaningful. Therefore, a good activity program should include a wide range of activities for early adolescents and would normally include social events appropriate to this age group, intramurals for both boys and girls, service and interest clubs, student publications, mini courses which are an outgrowth of student interests in the common learnings and exploratory areas of the curriculum, among others. If interscholastic athletics are included in an instructional program for early adolescents, they should be strictly controlled with the focus being upon participation of all students (no student should be cut).

The total curriculum for early adolescents should exhibit the following characteristics identified by research and recommended by authorities and practitioners in the field:

1. Guidance - an extensive program including individual counseling and group guidance with emphasis on educational, health, pre-vocational, and social-personal problems.

2. Exploration - awakening interests and abilities to facilitate youngsters making educational, vocational, and avocational decisions.

3. Differentiation - providing opportunities for working with each student at his own level and on his individual needs, interests, and abilities.

4. Articulation - striving to maintain a relatedness between experience, growth, and learning at the elementary level and the present level.

   - working to create a smooth transition from the self-contained elementary classroom to the departmentalization of the senior high.

5. Integration - emphasis upon instruction and organization at each grade level so that correlation between and within each subject area can be achieved.

6. Socialization - encouraging the development of appropriate and accepted behavior patterns in classroom, school, and community.[10]

When the curriculum for early adolescents outlined in the previous paragraphs is based upon a knowledge and understanding

of the physical, emotional, social, and intellectual characteristics of this age group and implemented to meet the needs, interests, and abilities of an extremely heterogeneous student body; the so-called middle school concept exists in reality regardless of the grade organization of the school.

Summary

A review of middle schools and junior high schools reveals that they are more similar than different in terms of practice, that implementation of the middle school concept exists more in ideal than in reality in either type of grade organization, and that research in physiological and sociological areas cannot be used to support either grade organization upon rational, empirical grounds without quoting conflicting evidence. The ultimate strength of the middle school movement may stem from the fact that any shake-up of an established pattern provides an excellent opportunity to make fundamental improvements in the basic structure.

FOOTNOTES

[1]Leslie W. Kindred and Associates, The Intermediate Schools (Englewood Cliffs: Prentice-Hall, Inc., 1968), p. 100.

[2]Theodore C. Moss, Middle School (Boston: Houghton-Mifflin Company, 1969), pp. 13-16.

[3]Judith Murphy, Middle Schools (New York: Educational Facilities Laboratories, Inc., 1965), p. 6.

[4]Philip H. Schoo, "Students' Self-Concept, Social Behavior, and Attitudes Toward School in Middle and Junior High Schools," (unpublished doctoral dissertation, The University of Michigan, 1970).

[5]Roger G. Barker and Paul V. Gump, Big School, Small School: High School Size and Student Behavior (Stanford: University Press, 1964), pp. 35-37.

[6]Edwin P. Willems, "Sense of Obligation to High School Activities As Related to School Size and Marginality of Student," Child Development, XXXVIII (December, 1967), pp. 1247-1260.

[7]Wilfred P. Dacus, "Study of the Grade Organizational Structure of the Junior High School as Measured by Social Maturity, Emotional Maturity, Physical Maturity, and Opposite Sex Choices," (unpublished doctoral dissertation, University of Houston, 1963).

[8]Daniel W. Shovlin, "The Effects of the Middle School Environment and the Elementary School Upon Sixth-Grade Students," (unpublished doctoral dissertation, University of Washington, 1967).

[9]Mauritz Johnson, Jr., "A Pilot Study of Teachers' Judgments of Pupils' Maturity in Grades 6 Through 9," (Junior High School Project, Cornell University, Ithaca, New York, 1963, mimeographed).

[10]Needed: Schools For Growing Up (East Lansing: Michigan Association of School Boards, undated).